

REMARKS

In the Office Action: claim 3 is allowed; claims 16-23 (sic, believed to be 21) were rejected under 35 USC § 112, second paragraph; claims 16-19 were rejected under 35 USC § 102(b) over Chen et al., Optics Communications 63:5 (01 Sept. 1987) (“Chen”), as evidenced by Kauffman; claims 16-19 were rejected under USC § 103(a) over Ershov et al., Khimiya Vysokikh Energii (1973), 7(4):3689-369 (“Ershov”) as evidenced by CAPLUS AN 1974:15388 in view of USPN 4,333,165 (“Swainson”), Miyazawa et al., Chemistry Letter 24:3 (03-1995), pages 217-218 (“Miyazawa”), and Abe et al. USPN 5,196,250 (“Abe”). These rejections are traversed.

Applicants thank the Examiner for the withdrawal of all prior art rejections and the alleged indefiniteness rejection regarding the pi bridge.

All amendments are made without prejudice or disclaimer. All previous arguments are herein incorporated by reference, and supplemented by the material provided here.

Request for Interview

Applicants formally request a telephonic or formal interview prior to examination. The undersigned may be reached at (858) 228-7829.

Telephonic Interview Summary

Applicants briefly discussed this matter with the Examiner on or about May 18, 2010. While the indefiniteness rejections were discussed, along with support in the specification for amino acid derivatives and synthetic routes suitable therefor, the Chen et al. reference had not at that point been provided to Applicants and was not discussed. The Examiner indicated that an

additional search had been performed, and that he wished to present the material in an Office Action for Applicants' consideration. Applicants agreed with this course and to future further discussions.

The Rejections Under 35 USC § 112, Second Paragraph

Claim 16-23 were rejected under 35 USC § 112, second paragraph, on the grounds that certain terms allegedly rendered the claims indefinite. These rejections are traversed. Claims 16-21 were presented, and the listing of claim 23 is believed to be a clerical error. Clarification is requested.

Definiteness and Distinct Claiming Under 35 USC § 112, Second Paragraph

"The requirement to 'distinctly' claim means that the claim must have a meaning discernible to one of ordinary skill in the art when construed according to correct principles. Only when a claim remains insolubly ambiguous without a discernible meaning after all reasonable attempts at construction must a court declare it indefinite." *Metabolite Labs., Inc. v. Lab. Corp. of Am. Holdings*, 370 F.3d 1354, 1366, 71 USPQ2d 1081, 1089 (Fed. Cir. 2004).

As set forth in MPEP 2173.02, a claim term is definite if its meaning is discernible. *Bancorp Services, L.L.C. v. Hartford Life Ins. Co.*, 359 F.3d 1367, 1372, 69 USPQ2d 1996, 1999-2000 (Fed. Cir. 2004).

Only if a claim term is insolubly ambiguous after all reasonable efforts at construction can it be declared indefinite.

Amino Acid. Each of Re-m, R_{a1-a3}, R_{b1-b3} and R_{g1-g3} were said to be "unclear what an amino acid is reacted to form said functional group." Office Action, page 3, first paragraph. This rejection is traversed.

One of Skill in Art Can Discern the Meaning of the Claim Term. As set forth in the accompanying declaration, a person of skill in the art, following the teachings of the application and the knowledge in the art, can discern what an amino acid is and how to react an amino acid to add a new functional group to the chromophores recited in the claims. Dr. Nils Kroger was not available for signing the declaration at the time of execution. A scientist of skill in the art, Dr. Robert J. DeVoe, reviewed the specification and claims and executed the accompanying declaration.

The accompanying declaration establishes that, upon review of the support in the application, including the description and the examples, a person of skill in the art finds that the meaning of the language used in the claims ("a functional group obtained by reaction with an amino acid") can be discerned. This evidence is probative regarding indefiniteness, as the measure of indefiniteness is whether a person of skill could determine the meaning of the claim term.

Numerous Functional Groups Incorporated into the Chromophores Can Be Used for Derivatization. The application describes numerous examples of functional groups that can be incorporated into the chromophores and reacted with amino acids and other molecules to introduce new functionalities into the chromophores. *See* pages 18-19. These include, without limitation, amines, hydroxyls, carboxylic acids, acyl chlorides, cyano groups, aldehydes, and sugars. Examples are provided for attachment of hydroxyls (example 5, 16, 18, 19, 20, 25), amines (example 45), amide linkage (Column 57, example 46), and aldehydes (column 74, example 68), and ester formation through reaction of a hydroxyl with an amino acid (examples 35-38). These groups, particularly the alcohol and amine, are known in the art to be useful for coupling to other functional groups or conversion to other functional groups and for coupling reactions. No evidence has been provided that this knowledge is not within the skill of the art. That accompanying language that refers to certain functional groups “such as” those recited does not render the functional groups specifically recited indefinite. Those functional groups are clear and definite to one of skill in the art and exemplify the generic language used.

Grounds of Rejection Not Clearly Stated. It is respectfully submitted that the grounds of rejection on this point are not clearly stated. As set forth at MPEP 706.02(i) and 707.07(d):

It is important for an examiner to properly communicate the basis for a rejection so that the issues can be identified early and the applicant can be given fair opportunity to reply.

The Office Action states that an example of amino acid derivatization is provided in the form of lysine derivatization of an exemplified compound, then further states that no examples are provided of how to derivatize a claimed compound with an amino acid. On this ground alone, the Office Action is inconsistent and unclear.

No Admissible Evidence Has Been Provided That The Claim Term Is Indefinite. No evidence is of record that a person of skill in the art cannot discern the meaning of the claim terms, nor has any attempt to construe the claim language been made.

In contrast, the arguments presented in the Office Actions present mere opinion. No admissible evidence from a person of skill in the relevant art has been provided reflecting that they find the claim term indefinite. Should the examiner regard himself as a person of skill in the art, he is invited to provide such evidence in declaration form, as Applicants are entitled to

request, so that it may be rebutted. In the absence of such a declaration, no admissible evidence has been provided that the claim term is indefinite.

As no admissible evidence contradicts the undisputed declaration provided herewith, the rejection is unsupported.

Conclusion. Because the meaning of the term can be discerned by one of skill in the art, this term is definite. No evidence has been provided to the contrary. Abundant support is provided in the application for the claim term. Withdrawal of this rejection is respectfully requested.

The Rejection Under 35 USC § 102(b)

Claims 16-19 were rejected under 35 USC § 102(b) over Chen et al., Optics Communications 63:5 (01 Sept. 1987) (“Chen”), as evidenced by Kauffman. This rejection is traversed.

Initially, Applicants note that this rejection is inapplicable to claims 17-18, as the compounds recited in those claims cannot form the structure cited in the Office Action. This rejection is believed to be a clerical error. Clarification is requested.

As noted in Kauffman, “[s]tructures for a given dye in the literature often disagree” See first paragraph. Kauffman was published in 1980, while the Chen study was published in 1987. No structural evidence is provided in Chen regarding the dye actually used, merely a common name. Therefore, the cited art itself provides evidence of the uncertainty of any literature citation using a common name.

Nevertheless, to expedite prosecution, claim 16 has been amended without prejudice to recite that when Da or Db is oxygen, the attached substituent is other than oxygen. This

amendment excludes the structure cited in Kauffman, and obviates the rejection. As there was no recognition in Chen of the structural determinants recited in this application, and the sole experiment on the common name “BBQ” dye was performed in a different solvent system than the other dyes reported therein.

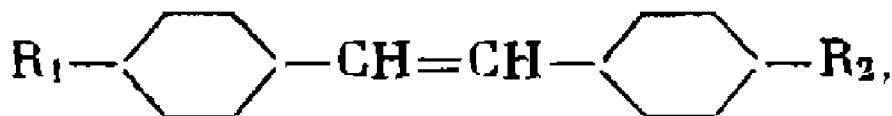
Furthermore, as chemistry is an inherently uncertain art, there could be no expectation that any dye structurally related to BBQ, whatever its structure actually may have been in Chen, would exhibit the surprising and unexpected properties of the compound classes described in the current application.

As Chen does not teach or suggest all the claim limitations recited in the claims, Chen does not anticipate claims 16-21. Withdrawal of the rejection is respectfully requested.

The Rejection Under 35 USC § 103(a)

Claims 16-19 were rejected under USC § 103(a) over Ershov et al., Khimiya Vysokikh Energii (1973), 7(4):3689-369 (“Ershov”) as evidenced by CAPLUS AN 1974:15388 in view of USPN 4,333,165 (“Swainson”), Miyazawa et al., Chemistry Letter 24:3 (03-1995), pages 217-218 (“Miyazawa”), and Abe et al. USPN 5,196,250 (“Abe”).

Applicants note that there is an inconsistency between the translation provided of Ershov and the CAPLUS reference, rendering its relevance entirely indefinite regarding the claimed structures. The provided translation recites functional derivatives of stilbene wherein:



where R_1 and R_2 are n-chloro -bromine, -fluorine, methoxy, -methyl, -ethoxy, -amino, -dimethylamino, -cyan, methyl ether n-stilbene carboxylic acid, n,n'-dichloro, -dioxy, -dimethoxy, or o,o'-dichloro.

Initially, the nomenclature used is nonstandard, referring to “n-“ (apparently monosubstituted) and “n,n’-“ (apparently disubstituted) derivatives, where “n” is clearly not nitrogen. Additionally, “o,o’” derivatives are referenced, again nonstandard terminology. Furthermore, the structure “methyl ether n-stilbene carboxylic acid” is referenced, and appears nowhere in the CAPLUS reference. No di-amino substituted compounds are provided in the translation, yet they are cited in CAPLUS. Thus, the validity of the CAPLUS reference and the translation provided are contradictory and do not provide a clear grounds of rejection, as is required.

As noted in the Office Action, Ershov deals merely with single photon absorption.

Furthermore, Ershov appears to have been using the described compounds as shielding agents. At page 2 of the translation, last paragraph, Ershov is stated to teach that “only some of the investigated units can serve as shielding additions.” Thus, Ershov appears to teach that many of the compounds (unclearly) described are not suitable for the intended purpose. The person of skill following Ershov’s unclear teachings would be in no way motivated to reach the unique structures taught within the instant application.

As stated in the Office Action, Miyazawa provides nothing to correct this deficiency in Ershov. Miyazawa is cited merely for its investigations of unsubstituted stilbenes. Miyazawa in no way provides motivation or teaching towards the unique donor-pi-donor structures of the instant invention.

Swainson merely provides a historical reference for the use of unrelated two-photon absorbing compounds to form three dimensional structures. The allegation that spiropyrans are similar to the cis form of stilbenes provided in the Office Action is respectfully asserted to be unmerited, and does not reflect the uncertainty inherent and acknowledged in the chemical arts.

Abe et al. provides yet another historical reference regarding the alleged incorporation of stilbenes “and related compounds” into polymers for recording. Nothing in Abe has been cited towards teaching the unique two-photon absorbing structures provided in the instant application.

As the cited references are contradictory, the rejection is inherently unclear and lacks clear grounds. Furthermore, there is no teaching, suggestion or motivation to modify whatever the teachings actually are of the cited art towards the claimed invention. Nothing has been provided that would lead directly to the unique structures described and claimed in the instant application. Therefore, obviousness has not been established. Withdrawal of the rejection is respectfully requested.

CONCLUSION

As the claims are believed in order for allowance, a notice to that effect is respectfully requested. An interview is formally requested upon entry of the accompanying amendment. The undersigned may be reached at (858) 228-7829.

Respectfully submitted,

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